DISCUSSION OF ACTIVITIES OF PANAMA CANAL COMPANY

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DISCUSSION OF ACTIVITIES OF PANAMA CANAL COMPANY

TUESDAY, APRIL 14, 1959

HOUSE OF REPRESENTATIVES,
COMMITTEE ON MERCHANT MARINE AND FISHERIES,
Washington, D.C.

The committee met at 10 a.m., pursuant to notice, in room 219, Old House Office Building, Hon. Herbert C. Bonner (chairman) presiding.

The CHAIRMAN. The committee will come to order.

From time to time, the committee calls before it the representatives of the various agencies under its jurisdiction to obtain information concerning current operations. This morning we have Gen. W. E. Potter, President of the Panama Canal Company, to discuss the various plans for the future of the canal. The board of consultants appointed by the committee some 18 months ago are actively engaged in determining what steps need to be taken to assure that world commerce will flow freely between the Atlantic and the Pacific and yesterday the general presented a completely new idea to that board for its consideration. He will explain it to us later. At this time he will give the general report. Governor Potter.

STATEMENT OF MAJ. GEN. WILLIAM E. POTTER, GOVERNOR OF PANAMA CANAL, AND PRESIDENT, PANAMA CANAL COMPANY

Governor POTTER. Mr. Chairman, I am so happy that you are keeping up this custom of calling me before the committee once a year to discuss the activities of what I consider the most important commercial trafficway in the world. We tend to think of things as old as the Panama Canal as being obsolete and worn out. I would like to assure you, sir, that it is doing a job that even its builders did not contemplate that it would do.

We are at traffic rates today that we 2 years ago predicted we would arrive at in 1968. It makes it more obvious than ever that the short-range projects that I described to you last year and which you approved are of great importance and that we did not get started on them any too fast. So, to start off, Mr. Chairman, I would like to give you a few current events showing what is happening to us down there and how far along we are in these short-range projects.

As I remember, when I was here last year, we had already started on the piece of the canal widening back here above Pedro Miguel locks. It is shown in yellow, a very short stretch of less than a mile, where we widened that particular piece to 500 feet. That is finished.

Since meeting with you, we have developed the plans, done a great deal of additional drilling, and advertised and awarded a very large contract for $7½ million to widen the section of the canal up past Gold Hill and Contractor's Hill. This will then give us one-half of the cut at 500 feet. There still will remain 4 miles of the cut still at 300 feet.

It was very interesting to me that we had 19 bidders on this $7½ million project. Seventeen of them were from the States and one of them, the low bidder, won his contract by something under $25,000. It was won by Merritt-Chapman & Scott of New York.

The red line, Mr. Chairman, shows the bottom of the cut, at the bottom of the canal after this job is done in 1961.

The white line shows the top of the slope that will lead down into this freshly widened piece.

The important thing, sir, is that this gives us 4 miles of cut where we will not have to take the extreme care that we have taken in the past with our larger ships. We will still have to take this extreme care with the ships as they are going through the remainder of the canal.

The other item that the committee had a great interest in last year was the new towing locomotives that we have been working on for some 4 years, at the present time.

As you know, we have let a contract and made a contract with LeTourneau to provide two radically new devices for towing the ships through the locks.

The proposal behind the LeTourneau device was a proposal which would permit us to have locomotives on one wall of the locks only and not on two and that was to be effected by a fender which this device carried and against which the ship would be snug and then the ship would be carried through with just locomotives on one wall.

The fender device did not work but from it we surely got enough to have made the expenditure worthwhile. We proved that the two-wire locomotive was feasible and possible. We took the two LeTourneau devices and took the fenders off, they being two-wire locomotives instead of single-wire locomotives. We put one on each wall of Gatun locks and started to carry ships through with just those two locomotives, one two-wire on one side and one two-wire on the other side.

The great savings that we will make from this particular device is the fact that we will be able to reduce our locomotives well below half of what we had formerly proposed. With a single-wire locomotive we would have needed some 62 of them. With the LeTourneau device, had it been successful, we would have needed something in the neighborhood of 23. Under this device we can get by with about 31, with about 6 or 7 for relay lockages as relays become necessary. This device is ready for advertising, will be advertised within the next month, and we hope to open up bids in July.

We are ordering these locomotives in increments.

We are ordering enough first for Gatun locks and will find out then if there are any minor variations that we can make in the canal ourselves and then the rest of the increments will come up.

I would like to bring you up to date a little bit on our traffic. This is the same chart that I showed you last year with one further year

added, fiscal year 1958. The yellow on this chart, Mr. Chairman, is wartime or U.S.-owned and operated vessels, usually war vessels but sometimes U.S. cargo vessels.

This chart starts in 1915 when the canal was opened, Mr. Chairman, and, as I say, it ends in 1958.

In the youth of the canal, traffic grew very rapidly. Then, as I remember in my youth, we had a depression and traffic fell off, logically.

We then had a war and military vessels took the place of commercial vessels. Commercial vessels were very few in their transits of the canal. Starting in 1946, we went into a growth that has been really stupendous. In 1958, our total number of transits, or our average transits, were 25.1 per day, against a theoretical capacity of the canal during overhaul year of 29.

Since the end of 1958 something has happened. In our 1959 budget, we predicted that we would have 25½ ships a day in fiscal year 1959. In the first half of fiscal year 1959, we had 25.2. In January, we had 28.3, and in March we had 29.4 ships a day. This happens, January, February, and March, during the time when we are practically in the same condition as an overhaul year. We are converting the locks from 25 to 60 cycle and we have only the same capacity as we had last year when we were overhauling.

I think this gives a picture that emphasizes the necessity to plan very carefully for the future.

This shows our transits, September, October, November, December, January, February, and March. The daily average during those months, as you can see, climbed, leveled off at about 26 ships, and then went into a considerable climb during the months of January, February, and March. That average in March was only 29.4 but it is not the average that we have to take care of. It is the daily transits that we have to take care of and our heaviest days have been up to 43 ships in February, or 50 percent above the average.

Our lightest days have been from 17 to 20—down to 17 and again up to 20.

The job of the Panama Canal, sir, is to take the ships of world commerce through it with the least loss of time to very expensive vessels. In our short-range study we put down an opinion which was supported by some facts that the average cost of operating a ship, worldwide, was $1,900 a day. U.S. ships, sir, cost between $2,500 and $4,000 a day, so that every day that one of these ships is not going from port to port at the fastest speed that it can economically travel, $2,500 to $4,000 is added to the cost of that cargo, and hence added to the cost of the finished product that that cargo is going to make.

Normally, as you can see, during these months from September up through December, we operated with 10 ships held over each month. That is only one ship held over every 3 days. A holdover ship is one which presents itself during the traffic day but, due to the size of the commerce for that day, we cannot take care of and it must be held over.

Look at what happened in January. We went up to 24 ships held over during that month, and in February 83 ships held over during that month. In March it was down to 50 ships held over.

I think that is a good indication of what the canal in its present condition can do and the effect of that failure or that lack of ability on the commerce of the world.

Now, in predicting what we should take care of in the future, we know as well as this committee knows that it is not the average. It is someplace between the average and the heaviest day.

As I said, this is 53 percent above the average. Taking care of all 53 percent or that large number of ships would entail costs that just do not stand up against the economics of the movement.

We have selected, after looking at all of our history in the past, 25 percent on top of this average day as the number of ships that we should take care of.

The holdovers in that case might be in the neighborhood of less than one a day.

In making our studies, carrying on beyond the short-range studies, Mr. Chairman, we felt that we had to have more support than we could give ourselves in the predictions of traffic that would face the canal for the future. As I reported last year, we hired Stanford Research Institute, California, to make this study. They investigated all of the traffic that goes through the canal and, like ourselves, came back to the fact that there were 11 principal commodities that caused the greatest part of the traffic in the canal. In fact, they caused over 75 percent of the traffic in the canal.

They also discovered that there were certain routes that had a preponderance of use and certain commodities that had to be looked at in great detail.

They made a prediction of what the canal would be faced with in 1975 and then we asked them to carry that on to 2000, knowing full well that it would be a glance into a long future but nevertheless we felt we had to know whether traffic was going to continue to climb or was going to fall off.

The principal commodities that they looked at were, first, the ores and the metals.

This committee is fully cognizant of the fact that there are large iron ore developments on the west coast of South America. At the present time most of that ore goes to the east coast of the United States.

The committee is well aware of the fact that in California at the present time there is just one large steel mill. Most of the steel of this country is made on the east coast and finished products are shipped to the west.

I think that anybody would presume and Stanford Research felt that there will be a growth of the steel-producing industry on the west coast as our population gets bigger.

You will notice that for the 1955–57 years there were some 7,700,000 tons of ore that went through the canal and largely it was Pacific to Atlantic—6 million tons.

In 1975, they say that that will be up to 17.7 million tons, still with most of it Pacific to Atlantic. In the year 2000 it will be some 27 million tons but Atlantic to Pacific getting bigger than Pacific to Atlantic. That is caused by this growth of the steel industry on the west coast.

With that goes coal and coke, 3 million tons at the present time, 13 million tons predicted in 1975, and 20 million tons in the year 2000.

If you add all of those major commodities together, which include petroleum, lumber, phosphates, nitrates, canned and refrigerated goods—which is becoming one of our biggest items through the canal—sugar and bananas, you will find that at the present time we have some 32 million tons, in 1975 some 57 million tons, and in the year 2000 some 78 million tons that we must take care of.

Against that we put transits, and they went a great deal into detail on what is going to happen to ships in the future. They feel that the present Mariner class is about the largest package goods ship that we will find economic to operate even a long way into the future. You will notice that for the general cargo vessels, where we have some 7,000 average between 1955 and 1957, they predict almost 10,000 in 1975 and 13,000 in the year 2000.

It is very interesting again to reiterate, sir, that in the month of March we were in 1968 traffic. We had 900 vessels go through the canal in March and we had for the first time in the history of the canal tolls over $4 million. We are fairly well off this year, Mr. Chairman.

Now, on tankers there is no growth because tankers are getting bigger all the time and the oil that tankers carry is sort of a marginal product as far as using our canal is concerned, and they feel that you cannot predict any growth because the price of oil in one place as against its delivered price in another place varies too frequently for it to have a definite trend and oil is being more widely discovered all over the world.

Ore carriers, on the other hand, will grow enormously. At the present time there are about 6 million tons of iron ore going through the canal. Two million tons of that are carried in a normal cargo vessel. A cargo vessel will go to South America and rather than come back empty will take on a cargo of iron ore and bring it to the east coast. That particular kind of transit of ore will increase but also there will be increases of the much larger ore carriers that we are seeing today.

Two weeks ago we had the first transit of a new liner 102 feet by some 780 feet. It presented quite a problem to get it through, but we got it through just as we got the *Cosmic*, as I reported last year.

We have had two requests last year as to whether or not we will take a vessel 106 feet wide. Now 102 feet is the largest we will handle but we would like to try the 106 to see whether we can handle it.

Passenger ships will increase considerably and, as a result, the number of ships that we have to take care of will rise from 8,272 average and we are going to have 9,500 ships; in the year 1975, 11,500; and in the year 2000, 15,000 ships.

These predictions we put against our daily lockages, and after all it is how fast the gates open and shut that counts.

This chart is a result of putting the Stanford Research figures on a chart against which we put the number of transits that we can take care of. Our lockage capacity per day is an interesting column. You will notice that in 1961 we say that the maximum lockage in an overhaul year will be 29 ships. In 1963 there will be 38 ships, and then it varies between 37 and 38 and 36 from then on out. That is our maximum capacity in an overhaul year. All of these are overhaul except the year 2000. The reason that we jump from 26 to 39 is that by

1963, we will have all of the projects finished and the increased capacity will be in our capabilities.

If the daily average was all we had to take care of we would not run out of capacity until the year 1986 but it is not that average, as I think I so clearly showed on that last year; it is the 25 percent above the daily average that is the problem, and that capacity we arrive at in the year 1971.

We still predict that the short-range projects will no longer take care of the traffic that goes through our canal after 1971, 1972, or 1973 and we must have something started long enough ahead of that so that when 1971 arrives we will be able to take care of the traffic that visits us.

We stepped a little into the unknown and into the politically unpopular, I think, in our next study.

This is the first time that that study has been presented in public. Congress frequently wants to know, if money is going to be spent, how much the recipient or the user of the facility upon which it is going to be spent can pay. So we asked Stanford Research to make a study about how much we could load tolls to pay for some of these projects in the future. The toll study was very interesting in that it brought this fact out very clearly: that we could raise tolls 100 percent without hurting very many of the trade routes. We would reduce traffic about 10 percent but we would make more cash. The subject was then presented to me for a decision and my decision was easy. I have recently reiterated that in a talk. The canal, I think, sir, was built to facilitate the development of world commerce and not to inhibit it, so that we should never do anything against the transiting of vessels that would cause commerce not to move or to have its products become more high priced in the areas where it is going to be used. So we looked into what would happen did we raise tolls and we found out that anything that was in the Philippines, for instance, would probably go the other way, the Philippines being on about the dividing line of equal distance to our canal as against around the Cape of Good Hope or through Suez.

Some of the South American traffic in ore might go around the Horn.

The production of nitrates in Chile would be seriously hurt or would have to go around the Horn since it is a rather marginal product, but still is very highly used in Europe. Oil probably would not be hurt too much but again it might be stopped entirely in trafficking through the canal.

Iron would probably adapt itself because there are big iron deposits on the east coast of South America and also on the west coast of South America, and the companies would probably get together so that iron ore would not use the canal so much and still would arrive at its destination at not too high a cost. But the intercoastal traffic of the United States would be wiped out, it being very marginal at the present time.

The toll study is a study for the advice of Congress in its cogitations for the future. I think it is a very fine study. It raises a warning flag as to how world commerce can be hurt by inadvisable actions on the part of the canal or any other agency. It does show definitely, I believe, that we could raise tolls by 5 or 10 percent without hurting anybody if we needed to raise tolls at any time.

In view of the size of traffic at the present time, and the fact that the advantages of the short-range study and its projects have not been fully utilized we do not see the necessity, unless there is a great change in commerce, of doing anything very radical at the present time.

We then went into a study and hired Parsons, Brinkerhoff, Hall & MacDonald, one of the outstanding engineering firms in the world, to review the cost estimates of the various canal plans made in 1947. We thought that this was an essential element because the price of construction has not gone up evenly. Steel, cement, concrete, have risen rather rapidly but, due to the fact that moving of earth has been facilitated by the production of larger wagons and larger shovels, greater masses of earth can be handled in one swing of a shovel and the price of moving earth has not raised anywhere near as much as the price of concrete. So we thought that we should ask these people to look into how these various plans had increased in cost and see whether there was any difference in relation between their advisability.

The first thing we did, sir, was we looked at what we could do to the canal itself to make it usable from now on out, recognizing the fact that the locks themselves would be the inhibitor of letting large ore vessels and tankers get through; also the larger passenger vessels.

We found, sir, that for $61 million we could widen the entire cut to 500 feet. We found we could deepen the entire canal to 47 feet. We found that we could put in a traffic control or scheduling system that would give us the maximum number of vessels in any one day. We found that we could develop a lock overhaul system which would have the locks out of operation for 2 weeks as against 4 or 5 months.

With all of those being done, we could have a canal for about $61 million that would take all the ships they could get through the locks until close to the year 2000. But we also know or assume that wage prices are going to continue to rise, or we think they are. Our history in the last 17 years shows they have gone up over 5 percent a year, and using a figure of 3½ percent, we found that the cost of operating this canal's locks would become so high that the value of the tolls that we would get would never cover that cost. For instance, it is interesting to note that, while my present payroll is $43 million a year, by 1963 it will be $50 million, and in 1969 it will be $60 million a year.

With this cost of labor and the inability to reduce the numbers extensively even though we do get these two-wire devices, in somewhere around the year 1980, I believe, the tolls will not make up for the rising costs that we will have in operating this canal, and the more important thing to me, sir, is that it will still inhibit the use of the two classes of ship in which the economy of the United States has a great interest, and that is the ore carrier and the oil tanker.

So, looking into the next plan, we came up with what is a resurrection of the old third locks plan. Utilizing the cuts that exist, putting in a lock of 1,200 by 140 by 50 and spending as of today $733 million, we would have a canal 50 feet deep and 500 feet wide that would take all of the commercial vessels of the world as we see them today but still not take the large aircraft carriers that we have in commission today. It would take 10 years to build this canal.

We looked at that because it would give us one lock that would take these largest vessels. We would only operate that lock for these larger vessels and still 90 percent of the traffic would utilize the old locks. We would still keep Pedro Miguel under this system. We would have a usable facility that would take care of commerce that would cost, as I said, $733 million.

Then we again took a look at the consolidated third lock project which eliminates Pedro Miguel, builds two locks of the present size in extension of Miraflores and a third lock alongside of a wider width 1,500 by 200 by 50. That consolidated third locks plan would cost $1,021 million as of today. That would give us a facility that would be much better than the old third lock projected because we would eliminate one set of locks, we would have the lake entirely at 65 feet, it would be an easy canal to operate. But all three of these—the $61 million project, the third locks, and the consolidated third locks—would still have this large labor force whose costs are going to escalate from now on out.

Then we looked again, of course, at the sea level canal, $2,368 million. We made several changes in the plan, the most important of which was the entire elimination of the tidal locks. Why was that? Well, sir, the tidal locks would be necessary, if they ever were necessary, when we started to get close to the capacity of a sea level canal, and the capacity of a sea level canal is practically illimitable. The reason for the tidal locks was the fact that during the higher tides there would be a current in the canal of some 4½ knots. For one-third of a day, maybe every 2 or 3 months, we would reach a current of 4½ knots. The rest of the time the current is less and appreciably less. It is interesting to note that a large tanker going through the canal today at 5 knots is passing through the water at some 9 knots because the water is rushing past the ship trying to fill the big hole that it just left. We do not think that 4½ knots is any impediment but we do not need to know. We do not need to know for several decades after a sea level canal is built.

The Nicaragua Canal is some $4 billion, sir. It must be a lock canal because of the economic impact on the country of lowering the lake to make a sea level canal in Nicaragua so that the projects I have to report today, sir, are first what I might call a businessman's solution, the $61 million job that makes do what we have; a third locks project at $733 million; a consolidated third locks at $1,021 million; and a sea level canal, $2,368 million.

As to a recommendation, I feel that in the past we have jumped into the future and come up with the best automobile and said, "That is what we have to have."

I am perfectly willing today to say that a sea level canal is what we will build some day. I am sure of that, but I do not feel, sir, that we should ever let the canal run out of capacity while the necessary decisions are being made and sometimes those decisions take a long time to make. I feel that until such time as those decisions are made we should continue with our short-range projects and then, as they will increase capacity and far enough ahead of the time that the capacity is needed, we do certain of the elements of the so-called businessman's solution. If those elements are phased properly, then the cost might be defrayed by the depreciation that we garner on the canal every year.

Sir, I could have taken 4 hours saying what I did. I hope I have not boiled it down too much.

Thank you.

The CHAIRMAN. For the further part of the hearing this morning, we will go into executive session.

(Whereupon, at 10:40 a.m., the committee proceeded to executive session.)

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